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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,045	12/18/2001	William A. Ahroon	920070.401	6056

27370 7590 12/27/2005

OFFICE OF THE STAFF JUDGE ADVOCATE  
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EXAMINER

KNEPPER, DAVID D

ART UNIT PAPER NUMBER

2654

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/025,045

Applicant(s)

AHROON, WILLIAM A.

Examiner

David D. Knepper

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. Applicant's correspondence filed on 18 Oct 2005 has been received and considered. Claims 1-20 are pending.

### **Abstract**

2. The Abstract of the Disclosure is objected to because it fails to focus on the claimed invention. Correction is required. See M.P.E.P. § 608.01(b).

### **Drawings**

3. The drawings are objected to because there is no figure showing a “calibrated spoken word”. If the applicant considers this a significant element, then a figure showing the waveform of a word compared to the waveform of a “calibrated” word would be considered a minimal disclosure showing what, if any, significant changes are made to known methods for presenting words. Similarly, there is no figure showing how “speech intelligibility” is actually measured. Instead of showing the steps or calculations necessary to perform the desired results of the claims, the applicant has merely placed the terminology inside a box while omitting any details.

Figures 1A – 1E are photographs that are unclear. It is difficult to distinguish elements even though some reference numbers are provided.

Figures 1C – 1E: The fields mentioned in the specification are not labeled in these figures. These figures are described in reference to prior art (i.e. - PEST, Hughson-Westlake procedures). This implies that these figures should be labeled as prior art.

Correction is required.

No correction was submitted in response to the drawing objection (REPEATED

ABOVE) sent with the Office Action mailed 18 Jul 2005. The applicant's request to hold the objection in abeyance is a direct violation of 37 CFR 1.85(a) and the applicant was warned of this (item 10, PTOL-326).

Figures 1C-1E are presumed to represent "prior art" since the applicant did not make any contrary statement to the objection indicating that it appears that they should be so labeled. The Examiner will so label these figures if the applicant does not.

The applicant's response regarding the failure of the drawings to show "calibrated spoken word" pointing to figures 2-9 does not make any sense because these figures do not show any examples of calibrated words nor do they even show how to perform any such calibration. To the contrary, they show that only calibrated words are presented (block 202) which indicates that any calibration was done prior to the method being employed in these figures.

#### **Priority Claims**

4. The applicant(s) should check their filing receipts and/or the Patent Application Information Retrieval (PAIR) system for the acknowledgment of their **domestic** priority or benefit claims (if any) under 35 USC 119(e), 120 or 121 (37 CFR 1.78).

#### **Claims**

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a known method of testing speech intelligibility using spoken or recorded words, does not reasonably provide enablement for “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words.” The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The specification, for example, on page 5 indicates that the inventor noticed discrepancies in known methods for testing speech thresholds “will introduce inaccuracies into the SRT testing in that differences in loudnesses can often somewhat offset the adjustment of the playback gain by the tester during testing” (page 5, specification, lines 5-7). The stated solution is to use words that are “‘calibrated’ such that the words have substantially the same sound energy – at least as viewed against some common scale...” (page 5, lines 17-20).

*Conflicting evidence that this is new or unobvious exists in the applicant’s description of prior art under his “Description of the Related Art” on page 2: “SRT testing generally provides a measure of sound intensity (in decibels (dB), which is related to the ‘loudness’ of speech as perceived by humans) at which words become intelligible.” Based on this statement attributed to prior art, it would appear that one of pedestrian skill in the art of speech signal processing would perform some form of calibration on the words being used to ensure that loudness for each word is the same, especially since the well known dB scale is specified.*

The applicant’s statements in the rest of the specification (such as that quoted from page 5) indicate that the invention is a subtle improvement requiring more rigorous calculations than previously employed yielding greater precision. However, the specification fails to provide any

specific calculations. The references made to RMS (root mean square) and peak value calculations are generic and appear in the prior art with greater precision than provided in the applicant's specification. Minimal disclosure would require the equations used to be disclosed. Broad disclosure could have been provided by the applicant using figures that have examples of word waveforms [or related displays of energy, SPL (sound pressure levels), peak tracking, etc.] that show comparisons before and after the improved calibration techniques were applied to one or more words.

Even in the provided figures, there is no showing of one or more steps that would actually "calibrate" any word or words. To the contrary, the figures only show a step 202, "present at least one calibrated spoken word" indicating that whatever calibration technique might be used has already been performed and the only thing done by the invention is to allow the data to be presented. As noted in 37 CFR 1.83(a)-(c), conventional features may be illustrated in a box and improvements may be shown as disconnected from the old structure (see also MPEP 608.02 (d)). Thus, it would appear that the applicant's figures indicate that the calibration is best considered as part of some undisclosed old structure.

The written description implies that the improvements described by the applicant in the specification are subtle applications of mathematical measurements (namely, RMS and peak values) intended to somehow "calibrate" individual words. However, details are not provided in the specification that would be necessary to implement and perform this desired result.

The specification indicates on page 2, lines 20-27, that standard speech reception threshold (SRT) testing will be performed: "SRT testing generally provides a measure of sound intensity (in decibels (dB), which is related to the 'loudness' of speech as perceived by humans)

at which words become intelligible.” This appears to cover the details of claims 5-9 and 14-18 if interpreted in view of the disclosure that such techniques are well-known. This is pointed out because, as was previously mentioned, the specification indicates that the improvement is not the actual performance of SRT, but the use of calibrated words to overcome deficiencies that can be solved by employing some new form of calibration.

The applicant’s response of 18 Oct 2005 indicates that the applicant agrees with the Examiner that some form of calibration is well known by the prior art and that the invention is an improvement on known calibration. However, the applicant argues that the portion quoted (“one of pedestrian skill in the art of speech signal processing would perform some form of calibration...” ) is not relevant to a rejection under 35 USC 112, first paragraph because it is related to novelty. The full paragraph above is in bold italics that contains this portion. Then Examiner’s intent was to try to help the applicant understand, in context, what content is lacking from the specification in comparison to common teachings in the prior art.

The new step of “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy” fails to find sufficient disclosure under 35 USC 112, first paragraph. It is therefore unclear what is being done to achieve this desired result. Is some type of hardware being used (i.e. – a filter to clip all signals above a certain “energy”)?

How are words “controlled”? The use of automatic gain control is not shown so this cannot be presumed. Does this replace some previous recording? Are words actually being analyzed for audio content in some manner that allows them to be further processed for

comparison and normalization with respect to each other?

This applicant's response fails to address details of the rejection which is that the applicant has failed to teach anything specific as required by 35 USC 112, first paragraph. As a minimum, the specification should disclose (in full, clear, concise, and exact terms) steps or apparatus that accept spoken word input, analyze/measure words, compare the results of the analyses between words, apply some criteria to determine whether there is a difference between the results and then make some type of modification (calibration) to one or more words to overcome certain perceived difference(s). It is most perplexing why no such elements are illustrated or described. To the contrary, reference to the calibration of a word was always in the past tense in the original claims and is only now added as a step which claims actually perform. The only disclosure relevant to performing calibration is on pages 5 (lines 17-28, figure 3) and 9 (lines 1-7 and 18-20, figure 4) and fails to provide more than a generic concept to try to calibrate based on RMS or peak values. No particular steps for accepting input, calculating parameters nor comparing values for words is disclosed which would be required to achieve some form of calibration.

It would appear that the applicant is arguing that one of ordinary skill in the art of speech signal processing would know how to perform these steps if presented the idea of calibration in broad generic terminology. This argument is contrary to the intent of 35 US 112, first paragraph which requires **full, clear, concise, and exact terms** which support the claimed invention. The applicant has offered no such details.

7. The amendment filed 18.Oct 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy” does not have support in the specification. There is no teaching, for example, for measuring the energy of multiple words, comparing the resulting measurement(s) and then making some sort of adjustment (calibration). There is no disclosure present that teaches how to control any word(s). No particular apparatus or method steps are provided for calibrating or controlling word(s) to result in substantially the same sound energy. This would require the input of multiple words, modifying one or more of the words in some specified manner and the modified data must be shown in a manner which would measurably demonstrate “substantially the same sound energy” between words.

Applicant is required to cancel the new matter in the reply to this Office Action.

8. Claims 1-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 10, 19: The new step of “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy” fails to find sufficient disclosure under 35 USC 112, first paragraph. It is therefore unclear what is being done to achieve this desired result. Should the “controlling” function be a

separate step rather than an inherent property of the “calibrating” step?

Claims 2, 3: There is no functional interconnect between “having...” a particular property and either measuring (i.e. – through conditional testing) or causing the property to exist (i.e. – by performing a series of steps that imbue word(s) with the desired property). How does each property (“root-mean-squared calibration” or peak value calibration”) relate to the calibrating step and the controlling function? Should these really be three separate steps in the method?

Claims 5-9 and 14-18 appear to be towards details for performing the SRT test instead of the type of calibration.

Contrary to the applicant’s arguments on page 12 of the 18 Oct 2005 response, the specification has not provided a clear description of calibrated words as noted above.

9. Claims 1-4 of this application conflict with claims 1-4 of Application No. 10/025,042. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4, 8-13, 19 and 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Revit (2001/0040969).

As per claims 1, 10, “a method” and “a system” is taught by Revit (see title):

“calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy” (suggested by his calibration 911, figure 9 which makes an adjustment so that the sound level measured at C matches the calibration level, paragraph 0087, lines 4-5);

“presenting the at least one calibrated spoken word” [suggested by his speech sentence materials, paragraph 0057, line 2); and

“measuring a speech reception threshold utilizing the at least one calibrated spoken word” (his tester keeps score...of words repeated correctly by the listener, paragraphs 0075-0076).

It is noted that Revit does not explicitly teach “calibrated recorded spoken word”. However, he teaches that any spoken sounds may be stored and, as noted above, he specifically refers to sentence materials and measuring the number of words repeated correctly. It would

have been obvious to apply his calibration to words because he teaches that the material he is recording may include words as portions of sentences. Further evidence of obviousness is in paragraph 0098-0099 in reference to real-world sounds to include conversations which would inherently include words spoken in conversation.

Claims 2, 3, 11, 12 are rejected as claiming well known speech signal processing mathematical calculations as admitted by the applicant (page 11, response of 18 Oct 2005). It is also noted that Revit teaches that it is known to measure levels using rms on page 4, paragraph 0046.

Claims 4, 13: Using “at least one audio speaker” is taught by Revit with his speakers in figures 2 and 3.

Claims 8, 9, 17 and 18: Official Notice is taken that the Hughson-Westlake and PEST procedures were not invented by the applicant and are well known test procedures to those of ordinary skill in the art.

Claims 19 and 20 are rejected under similar arguments as applied to claim 1 above. The use of various forms of recordable media is taught by Revit (see his storage medium in fig. 4: items 405, 407, 411; fig. 8: item 807 and fig. 9).

12. Claims 5-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Revit (2001/0040969) in view of Taylor (Ref. AP, “PEST: Efficient Estimates on Probability Functions”).

Claims 5-7, 14-16: “accepting test subject input...decreasing [or] increasing a speech parameter...determining if a threshold is met” is suggested by Revit’s relative sound amplitude

of the target and competing signals may be varied, to produce variations in the percentage of words repeated correctly by the listener, paragraph 0076. While it is believed that one of ordinary skill in the art would find this type of procedure obvious in view of the variations taught by Revit, Taylor explicitly teaches that this type of increasing/decreasing algorithm used to find psychoacoustic thresholds has been well known since 1967. Therefore, it would have been obvious to use such a well known algorithm such as taught by Taylor to improve the assessing of Revit because both are performing psychophysical testing and Taylor teaches a specific technique that is rapid and efficient (see abstract).

Claims 9 and 18: The PEST procedure was not invented by the applicant and is explicitly taught by Taylor (see above and title).

13. Claims 8 and 17 are rejected under 35 U.S.C. § 103 as being unpatentable over Revit in view of Taylor (Ref. AP, "PEST: Efficient Estimates on Probability Functions") in further view of Carr (Development of an Audiological Test Procedure Manual for First Year Au.D. Students).

While it is believed that one of ordinary would know that the type of test algorithms are well known as previously noted, Carr is additionally applied to show that a modified Hughson-Westlake procedure is well known in the art (see Carr, page 49). While the Carr reference is dated 2001, the teaching to which she ascribes this procedure is dated 1986 (her reference to the "Martin and Dowdy Spondee Threshold Procedure" of 1986). The Examiner does not have ready access to the 1986 reference but it must be noted that the steps on page 49 of Carr appear to be obvious variants of the PEST procedure (noted above) applying spondaic words or spondees (see Carr, pages 135-137).

**Remarks**

14. The changes in claim language have been addressed with new rejections above.
15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Some correspondence may be submitted electronically. See the Office's Internet Web site <http://www.uspto.gov> for additional information.

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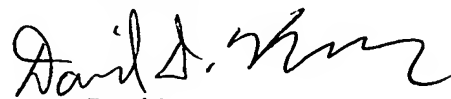
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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Knepper whose telephone number is (571) 272-7607. The examiner can normally be reached on Monday-Thursday from 07:30 a.m.-6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

For the Group 2600 receptionist or customer service call (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by email at [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.



David D. Knepper  
Primary Examiner  
Art Unit 2654  
December 20, 2005